Legacy Waste

USEC
A Global Energy Company

GEORGE P. RIFAKES
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May 6, 1998

Mr. Joe W. Parks
Assistant Manager
for Enrichment Facilities
U. S. Department of Energy
P. O. Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Parks:

**Legacy Waste at Paducah and Portsmouth Gaseous Diffusion Plants**

Enclosed is Revision 1 to the Legacy Waste Agreement which includes the recently agreed to language regarding Arsenic. I would appreciate your review and concurrence and ask you to signify by your signature in the space below.

If you have any questions, please call Mike Taimi at (301) 564-3409.

Sincerely,

George P. Rifakes

Enclosure

Joe W. Parks
Assistant Manager for Enrichment Facilities
U. S. Department of Energy

REVIEWED FOR
CLASSIFICATION
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Initials Date
UNCLASSIFIED

# Clarification of DOE Responsibility for Managing Legacy Waste*

The purpose of this document is to clarify legacy waste issues between the Department of Energy (DOE) and the United States Enrichment Corporation (USEC). This document does not modify, amend, or alter in any way the Lease Agreement between USEC and DOE for the GDPs, or any memoranda of agreement, or any other agreement between DOE and USEC. Except as provided below or in Exhibit C to the Lease between DOE and USEC (Environmental and Waste Management Memorandum of Agreement) or is otherwise agreed to by DOE and USEC, USEC is responsible for preparing applicable waste generated by it or its contractors for DOE acceptance based on reasonable DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site. DOE is responsible for storage and ultimate disposal of the waste.

USEC will only sample and analyze the legacy waste to the extent necessary to (1) establish that the waste is a DOE legacy waste and (2) meet mutually agreed upon sampling and analysis criteria (e.g., criteria required by DOE's Resource Conservation and Recovery Act Part B permit). Process knowledge is acceptable in lieu of sampling and analysis to establish that the waste is DOE legacy waste if, 1) data can be provided that can be directly related to the characterization of the waste being accepted (e.g., historical lab results from related waste or manufacturing documentation that specifies the contents of the material) and 2) such data is acceptable to the regulators.

USEC will utilize best efforts to minimize the spread or further contamination of equipment facilities, or the site with legacy waste.

A. **ASBESTOS:** Asbestos was used extensively at both the Paducah and Portsmouth Gaseous Diffusion Plants (PGDP and PORTS, respectively) for fire prevention purposes. Portsmouth and Paducah are engaged in remediation actions in accordance with state and federal requirements.

It is agreed that responsibility for asbestos is as follows:

1) For wastes that contain asbestos and that are generated as the result of normal USEC operations and maintenance or capital improvements made by USEC, USEC is responsible for preparing such waste for DOE acceptance based on reasonable DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site). DOE is responsible for storage and ultimate disposal of the waste.

2) For wastes that contain asbestos and that are not generated as the result of normal USEC operations and maintenance or USEC capital improvements (e.g. wastes generated pursuant to DOE request or direction), DOE shall be fully responsible for all aspects of asbestos waste management.

*Legacy waste covered by this agreement is defined as waste generated at the Paducah or Portsmouth Gaseous Diffusion plants that contain any of the following materials: Asbestos, Arsenic, Chromium, Pentachlorophenol, Trichloroethylene, Transuranics, and Polychlorinated Biphenyls.

B. **CHROMIUM:** Chromium was widely used at PGDP and PORTS as a corrosion inhibiter in the cooling tower water. Chromated water has been spilled at both sites, and elevated chromium levels can be found in soil, concrete from old dikes, and other materials. Both facilities have switched from chromate to phosphate as a corrosion inhibiter in order to reduce generation of the Resource Conservation and Recovery Act (RCRA) waste.

The responsibility for chromium is as follows:

1) For any waste generated by USEC or its contractors that is classified as RCRA hazardous waste because of the presence of chromium/chromates, USEC is responsible for preparing applicable waste for DOE acceptance based on reasonable DOE waste acceptance criteria (e.g., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site. DOE is responsible for storage and ultimate disposal of the waste.

2) For wastewaters that contain chromates in excess of USEC National/Kentucky Pollutant Discharge Elimination System (NPDES/KPDES) discharge limits established for recirculation cooling water or runoff from chromium/chromate contaminated areas, DOE shall be responsible pursuant to the Lease.

C. **PENTACHLOROPHENOL (PCP):** Napchlor G Sodium Pentachlorophenate, a PCP derivative, was used as a fungicide to treat cooling tower redwood. Napchlor G use at the GDPs ceased years before transition to USEC. Because of overspray of the fungicide at PGDP, detectable levels of PCP degradation products (octachlorodioxin and heptachlorodioxin) are found in the redwood and in soils surrounding the cooling towers.

The responsibility for PCP is as follows:

1) For any waste generated by USEC or its contractors that is regulated by RCRA or by federal or state hazardous waste regulations for PCP or its degradation products, USEC is responsible for preparing applicable waste for DOE acceptance based on reasonable DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site and DOE is responsible for storage and ultimate disposal of the waste.

D. **TRICHLOROETHYLENE (TCE):** Both GDPs have used TCE as a degreaser, and TCE was used in the PGDP cylinder drop test facility. TCE is a groundwater contaminant at both GDPs.

The responsibility for TCE is as follows:

1) For any waste generated by USEC or its contractors that is regulated by RCRA or by federal or state hazardous waste regulations because of the presence of TCE, USEC is responsible for preparing applicable waste for DOE acceptance based on reasonable DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and

for transporting the waste to DOE storage areas on site and DOE is responsible for storage and ultimate disposal of the waste.

2) The responsibility for any TCE-contaminated soil or groundwater remains with DOE unless such contamination is caused by a post-July 1, 1993 release by USEC or its contractors of process or laboratory generated waste that contains TCE first introduced into the GDPs by USEC or its contractors.

3) All KPDES or NPDES exceedances and response actions resulting from discharges of TCE are the responsibility of DOE unless the exceedances are shown to be caused by a post July 1, 1993 release by USEC or its contractors of process or laboratory generated waste that contains TCE first introduced into the GDPs by USEC or its contractors.

E. **TRANSURANICS:** Starting in the 1950s and continuing through the late 1970s, depleted DOE reactor fuel ($UO_3$) was converted to $UF_6$ and then enriched in the PGDP cascade. The $UO_3$ contained transuranics such as neptunium, plutonium, and americium. During the Cascade Upgrade Program and the Cascade Improvement Program, many transuranic contaminated pieces of equipment were removed. However, small quantities of transuranic contamination is still present within the cascade and associated buildings. Some transuranic contamination also exists at PORTS as a result of receiving transuranic-contaminated feed material from PGDP. Any waste containing greater than 100 nanocuries per gram (nCi/g) of total transuranic activity is classified as transuranic waste per DOE Order 5820.2A. There are no regulations governing transuranics below the 100 nCi/g level. Detectable levels of transuranics can be found in the waste at both sites.

The responsibility for transuranics is as follows:

1) Feed material with trace amounts of transuranics are acceptable as long as feed/product specifications are met. USEC will provide DOE with available data from time to time on transuranic content of feed material. If USEC introduces transuranics in excess of the feed/product specifications to the cascade, USEC is responsible for any resulting waste with a total transuranic content greater than 100 nCI/g.

2) Except as provided in the paragraph E.1 above, for any waste with a total transuranic content greater than 100 nCi/g, USEC is responsible for preparing applicable waste for DOE acceptance based on reasonable DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site and DOE is responsible for storage and ultimate disposal of the waste.

F. **POLYCHLORINATED BIPHENYLS (PCBs):** All the PCBs at the GDPs were present when USEC assumed operation of the GDPs on July 1, 1993. The PCBs were introduced into the plants by DOE (or its predecessors) prior to the Toxic Substance Control Act (TSCA) regulations under 40 CFR 761. DOE's management of PCBs at the PGDP and PORTS is currently regulated by the United States Environmental Protection Agency (EPA)

through a TSCA Federal Facility Compliance Agreement (FFCA). This FFCA includes requirements for wastes with PCBs 50 ppm or greater or from a source of 50 ppm or greater.

The responsibility for PCB is:

1) DOE is fully responsible for (i) material (including drips and spills) containing PCB concentrations equal to or greater than 50 ppm or from sources equal to or greater than 50 ppm; (ii) all drips/spills from motor supply and exhaust gaskets and associated troughing, regardless of PCB concentrations; and (iii) all trough system construction and maintenance. DOE is responsible for all actions required by the TSCA FFCA with EPA.

2) Except as provided below, USEC is responsible for all other PCB waste at concentrations of less than 50 ppm (detectable PCBs).

3) For those detectable PCBs (less than 50 ppm) that cannot be treated or disposed of using commercial waste management facilities available to USEC, USEC is responsible for preparing applicable waste for DOE acceptance based on DOE waste acceptance criteria (i.e., sampling, analysis, packaging), and transporting the waste to DOE storage areas on-site. DOE is responsible for storage, treatment and ultimate disposal of the waste.

4) At the time DOE accepts responsibility for the waste described in paragraph F.3 above, USEC shall demonstrate that no commercial waste management facility is currently available to USEC.

5) Except for PCB wastes described in paragraph F.1 above, all costs of sampling and analysis necessary to determine if a process waste originates from a source equal to or greater than 50 ppm shall be borne by USEC.

6) All KPDES or NPDES exceedances and response actions resulting from discharges of PCBs are the responsibility of DOE unless the exceedances are shown to be the direct result of a post July 1, 1993 release of PCB from equipment operated by USEC that was improperly maintained or operated by USEC or its contractors.

G. **ARSENIC**: The presence of arsenic in the Gaseous Diffusion Plants (GDPs) feed stream was recognized in 1986 when significant quantities of arsenic were identified in corrosion deposits associated with UF6 cylinder valves. The source of the arsenic contaminant in the feed streams of the GDPs was identified in 1988. The presence of arsenic as a contaminant from this source has caused both liquid and solid mixed arsenic waste to be generated by USEC at the GDPs. The UF6 Feed Specifications, ASTM C-787 was subsequently modified to allow small quantities of arsenic in the feed.

The responsibility for arsenic is as follows:

1) Feed material with trace amounts of arsenic are acceptable as long as feed/product specifications are met. USEC will provide DOE with available data from time to time on arsenic content of feed material.

2) For any arsenic bearing waste in solid form attributable to past DOE feed stock and generated by USEC or its contractors, USEC is responsible only for those wastes with TCLP arsenic analyses of 100 ppm or less and will bear the cost of the TCLP analysis.

3) Except for those specific wastes identified in paragraph G. 2 above, USEC is responsible for preparing applicable solid and liquid hazardous wastes attributable to past DOE feed stock for DOE acceptance based on reasonable DOE waste acceptance criteria (e.g., sampling, analysis, packaging), and for transporting the waste to DOE storage areas on site. DOE is responsible for storage and ultimate disposal of the waste.